

IN THE CLAIMS:

Please cancel claims 2-3, and 16-18 without prejudice, add new claims 20-24 and amend the claims as follows:

1. (Currently Amended) A method of matching the response of a hydrophone and the response of an accelerometer, the method comprising the steps of:

performing a calculus operation upon the response of at least one of the hydrophone and the accelerometer; and

deriving a filter from the output of the calculus operation and the response of the other of the hydrophone and the accelerometer by dividing a result of the calculus operation by the response of the other of the hydrophone and the accelerometer.

2-3. (Cancelled)

4. (Original) A method as claimed in claim 1, 2 or 3 wherein the step of performing the calculus operation comprises the step of integrating the response of the accelerometer with respect to time.

5. (Original) A method as claimed in claim 1, 2 or 3 wherein the step of performing the calculus operation comprises the step of differentiating the response of the hydrophone with respect to time.

6. (Currently Amended) A method ~~of processing seismic data~~ as claimed in claim 1 further comprising the steps of:

~~obtaining a filter for matching the response of an accelerometer and the response of a hydrophone according to a method defined in any of claims 1 to 5;~~

obtaining first seismic data using the one of the hydrophone and the accelerometer and obtaining second seismic data using the other of the hydrophone and the accelerometer; and

using the ~~matching~~-filter to match the first seismic data and the second seismic data.

7. (Currently Amended) A method ~~of processing seismic data~~ as claimed in claim 1 further comprising the steps of:

~~obtaining a filter for matching the response of an accelerometer and the response of a hydrophone according to a method defined in any of claims 1 to 5;~~

synthesising first seismic data for the one of the hydrophone and the accelerometer and synthesising second seismic data for the other of the hydrophone and the accelerometer; and

using the ~~matching~~-filter to match the first seismic data to the second seismic data.

8. (Currently Amended) A method as claimed in claim 6 or 7 and further comprising: ~~the step of~~

applying the calculus operation to the first seismic data; and

wherein the step of using the ~~matching~~-filter to match the first seismic data to the second seismic data comprises applying the ~~matching~~-filter to the first seismic data after the calculus operation has been applied to the first seismic data.

9. (Currently Amended) A method as claimed in claim 6, ~~7 or 8~~ and further comprising ~~the step of~~: combining the matched first seismic data and the second seismic data.

10. (Original) A method as claimed in claim 9 and comprising the further step of applying one or more data processing steps to the combined seismic data.

11. (Currently Amended) An apparatus for matching the response of a hydrophone and the response of an accelerometer, the apparatus comprising:

means for performing a calculus operation upon the response of at least one of the hydrophone and the accelerometer; and

means for deriving a filter from the output of the calculus operation and the response of the other of the hydrophone and the accelerometer by dividing a result of the calculus operation by the response of the other of the hydrophone and the accelerometer.

12. (Currently Amended) An apparatus as claimed in claim 11 and further for processing seismic data and comprising:

means for receiving first seismic data acquired using the one of a hydrophone and an accelerometer and second seismic data acquired using the other of the hydrophone and the accelerometer; and

means for matching the first seismic data and the second seismic data using a matching the filter obtained by a method as defined in any of claims 1 to 5.

13. (Currently Amended) An apparatus as claimed in claim 12 and further comprising: means for applying the calculus operation to the first seismic data; and means for subsequently applying the ~~matching~~ filter to the first seismic data.

14. (Currently Amended) An apparatus as claimed in claim 12 ~~or 13~~ and further comprising means for combining the first seismic data and the second seismic data.

15. (Currently Amended) An apparatus as claimed in claim 12, ~~13 or 14~~ and further comprising a programmable data processor.

16-18. (Cancelled)

19. (Currently Amended) A storage medium containing a program ~~as defined in claim 18~~ configured to:

perform a calculus operation upon the response of at least one of a hydrophone and an accelerometer; and

derive a filter from the output of the calculus operation and the response of the other of the hydrophone and the accelerometer by dividing a result of the calculus operation by the response of the other of the hydrophone and the accelerometer.

20. (New) The storage medium of claim 19, wherein the program configured to perform the calculus operation is further configured to integrate the response of the accelerometer with respect to time.

21. (New) The storage medium of claim 19 wherein the program configured to perform the calculus operation is further configured to differentiate the response of the hydrophone with respect to time.

22. (New) The storage medium of claim 19, wherein the program is further configured to:

obtain first seismic data using the one of the hydrophone and the accelerometer;
obtain second seismic data using the other of the hydrophone and the accelerometer; and
use the filter to match the first seismic data and the second seismic data.

23. (New) The storage medium of claim 19, wherein the program is further configured to:

synthesize first seismic data for the one of the hydrophone and the accelerometer;
synthesize second seismic data for the other of the hydrophone and the accelerometer; and
use the filter to match the first seismic data to the second seismic data.

24. (New) The storage medium of claim 22, wherein the program is further configured to:

apply the calculus operation to the first seismic data; and

wherein the program configured to use the filter to match the first seismic data to the second seismic data is further configured to apply the filter to the first seismic data after the calculus operation has been applied to the first seismic data.